

# Introduction

This survey of professional scientists and applied scientists is the most comprehensive that has so far been undertaken in the United Kingdom, and gives a detailed statistical picture of the activities and earnings of more than twenty-five thousand scientists, irrespective of their different disciplines and specialized interests. It shows how this country makes use of one of its most valuable assets—the qualified biologists, chemists, mathematicians, metallurgists and physicists who make up its scientific manpower.

For the purpose of the survey, a professional scientist was defined as any person who, on 1st April 1968, was a Fellow; an Associate Fellow, Associate or Member; a Licentiate; or a Graduate member of one of the following qualifying bodies:

- The Institute of Biology
- The Royal Institute of Chemistry
- The Institute of Mathematics and its Applications
- The Institution of Metallurgists
- The Institute of Physics and The Physical Society

There are, of course, other societies that award qualifications in specialized branches of science and technology, but the majority of scientists belong to one or other of the five major institutes named above, whether they are members of other bodies or not. The scope of the survey was, therefore, sufficiently wide to be representative of professional scientists in the United Kingdom.

In other contexts a university degree in science, or an equivalent to such a degree, has been regarded as the minimum standard of attainment required for designation as a professional scientist. The members of the five institutes have all reached this standard and seventy per cent hold university degrees as well as a professional qualification.

Traditionally, the academic level for admission to the five science institutes has corresponded very closely to that of a degree *with first or second class honours*, and the great majority of Fellows and Associates, or their equivalent, who make up more than 69 per cent of the membership surveyed, have reached this 'good honours degree' level. The separate statistics relating to the remuneration of all members, regardless of grade, and that of Fellows and Associates only are therefore of special significance.

In the past, the individual science institutes have conducted separate surveys of the remuneration of their members at different times and in diverse forms. However, in 1967 it was agreed that the next survey should be carried out simultaneously as a joint exercise and in standard form. The questionnaire, which asked for much more information than on any previous occasion, was devised in consultation with the Ministry of Technology and is reproduced on pages 40 and 41. Planning and organization of the project was co-ordinated by the office of the Royal Institute of Chemistry but each institute received the completed questionnaires from its own members. Initial processing of the edited questionnaires was undertaken by the Computer Department of the Glaxo Group of companies as a gesture of goodwill. The analysis of results and commentary for the separate surveys have since been published by the five bodies, mainly in their respective journals. These individual surveys are extremely valuable in that they provide material for a study of the relatively small but significant differences in the characteristics of the five groups of scientists.

The total number of scientists invited to answer the questionnaire was nearly 40 000 and 69 per cent responded. All the statistical material of the separate surveys was then passed to the Ministry of Technology for reprocessing in a single exercise. This was designed to provide, for the first time, a profile of professional scientists closely compatible with the profiles of professional engineers, obtained from the surveys carried out in 1966 and again in 1968. These surveys were undertaken jointly by the Ministry and the Council of Engineering Institutions.

## **The Council of Science and Technology Institutes**

The Council of Science and Technology Institutes (CSTI) was established in February 1969, with the five bodies previously referred to as founder members.

The objects of the Council are:

- (a) to make known as widely as possible the part that science and technology play in a modern community and to represent and enhance the

contribution of the scientist and technologist to the well-being of every citizen,

- (b) to be a channel for the communication of common views of the member societies to Government departments, to industry and to other organizations (in particular the Royal Society and the Council of Engineering Institutions),
- (c) to collect information necessary for the formulation of common views,
- (d) to make available to members of all the constituent bodies the privilege of attending meetings arranged by any one body at the same rate as charged to members of that body,
- (e) to provide joint services for members,
- (f) to aim at the adoption of common, easily understood terminology indicating levels of qualifications,
- (g) to collaborate on matters of educational policy, especially recruitment to the professions,
- (h) to collaborate on other matters of common concern.

### **Profiles of professional scientists and engineers**

It has been agreed with the Council of Engineering Institutions that reciprocal publication of data on the remuneration of scientists and engineers would be of considerable interest.

The charts and table on pages 18 and 19 showing median incomes by age-group have been prepared jointly by the two bodies to illustrate the similarities and differences between the profiles of professional scientists and engineers.

# Part one

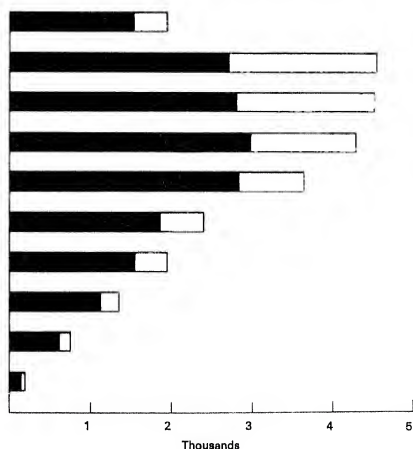
## Charts and summary tables

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# Age distribution of scientists

Table 1	Sample number	Per cent
All scientists	25 560	100.0
Under 25	1 953	7.6
25 — 29	4 565	17.9
30 — 34	4 535	17.7
35 — 39	4 282	16.8
40 — 44	3 634	14.2
45 — 49	2 395	9.4
50 — 54	1 946	7.6
55 — 59	1 342	5.3
60 — 64	735	2.9
65 and over	173	0.7



■ University graduates

About three-quarters of scientists were under 45; about one-third were in the age group 35-44. This latter group represents a distinct feature of the growth as compared with the 10-year group, 45-54, ahead of them.

● See also Tables 10 to 18

# Class of employer

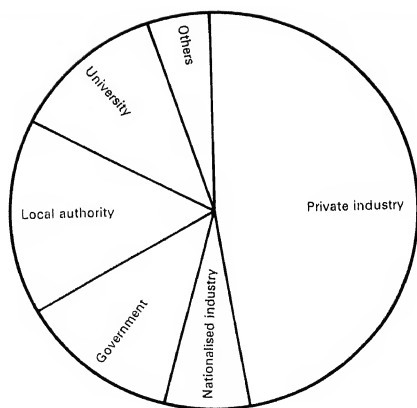


Table 2	Sample number	Per cent
All scientists	25 560	
Scientists stating employer	25 564	100.0
Self-employed	249	1.0
Employed by—		
Industrial or commercial company or private firm	12 223	47.8
Nationalized industry or public corporation	1 682	6.6
Central Government and Armed Forces	2 371	9.3
Hospital Board	245	1.0
The UK Atomic Energy Authority	868	3.4
Local authority, including colleges and schools	4 036	15.8
University	3 155	12.3
Other employer	735	2.9

The overwhelming majority of scientists are employees, with only one per cent self-employed. Nearly half (48 per cent) are scientists employed by private industry and commerce. Smaller but still important employers are local authorities (16 per cent), Central Government, including the Armed Forces and UKAEA (13 per cent) and universities (12 per cent).

# Type of work

The distribution of scientists by type of work is shown in this chart. The shaded areas represent those who stated that they held an administrative or managerial position, whether this is scientific or non-scientific work.

Research and development was the most frequently observed type of work, nearly 36 per cent of the total. Teaching was the second largest group, a quarter of all the scientists.

More than half of the scientists stated that they held administrative or managerial positions, and of these 46 per cent were in the combined group of research and development, and general technical administration. The non-managerial posts are dominated by research and development and teaching, which together form 78 per cent of the group.

Research and development

Teaching

Production, analysis, testing of materials or instrumentation and control

General technical administration

Commercial and consultancy

Other scientific, including design

Non-scientific work

■ Administrative or managerial

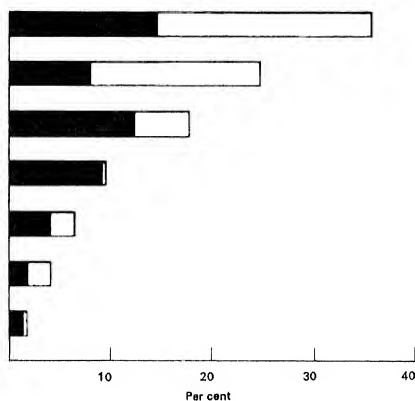
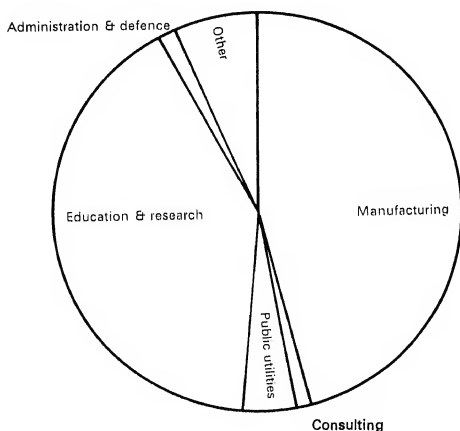


Table 3

	Sample number	In managerial positions		In other positions	
		Per cent	Number	Per cent	Number
<b>All scientists</b>	<b>25 560</b>		<b>13 366</b>		<b>12 194</b>
<b>Scientists stating type of work</b>	<b>25 509</b>	<b>100.0</b>	<b>13 324</b>	<b>100.0</b>	<b>12 185</b>
Research and development	9 073	35.6	3 772	28.3	5 301
Teaching	6 342	24.9	2 122	15.9	4 220
Analysis, testing of materials or instrumentation and control	2 852	10.4	1 489	11.2	1 163
Production	1 835	7.2	1 648	12.4	187
General technical administration	2 383	9.3	2 336	17.5	47
Technical services, sales or similar commercial work	1 162	4.6	794	6.0	368
Consultancy	460	1.8	306	2.3	154
Design	216	0.8	100	0.8	116
Other scientific work	977	3.8	409	3.1	568
<b>Non-scientific work</b>	<b>409</b>	<b>1.6</b>	<b>348</b>	<b>2.6</b>	<b>61</b>

# Field of employment

The chart below shows the distribution of scientists according to their field of employment, using wide groupings. The more detailed breakdown shown opposite is based on the Standard Industrial Classification.



**Table 4**

	Sample number	Per cent
<b>All scientists</b>	<b>25 560</b>	
<b>Scientists stating field</b>	<b>25 532</b>	<b>100.0</b>
Manufacturing	11 652	45.6
Mining and quarrying	131	0.5
Gas, electricity and water	870	3.4
Transport and communications	181	0.7
Hospitals	234	0.9
Research institutions	2 908	11.4
Education	7 455	29.2
Central Government administration	373	1.5
Government or municipal laboratory	718	2.8
Consulting firms	281	1.1
Other fields	729	2.9

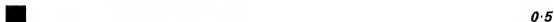


**Percentage of all scientists who stated field of employment**

**Manufacturing**



**Mining and quarrying**



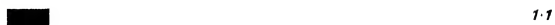
**Public utilities**



**Hospitals**



**Consulting firms**



**Research institutions**



**Central government administration**



**Government or municipal laboratory**



**Education**



**Other fields**

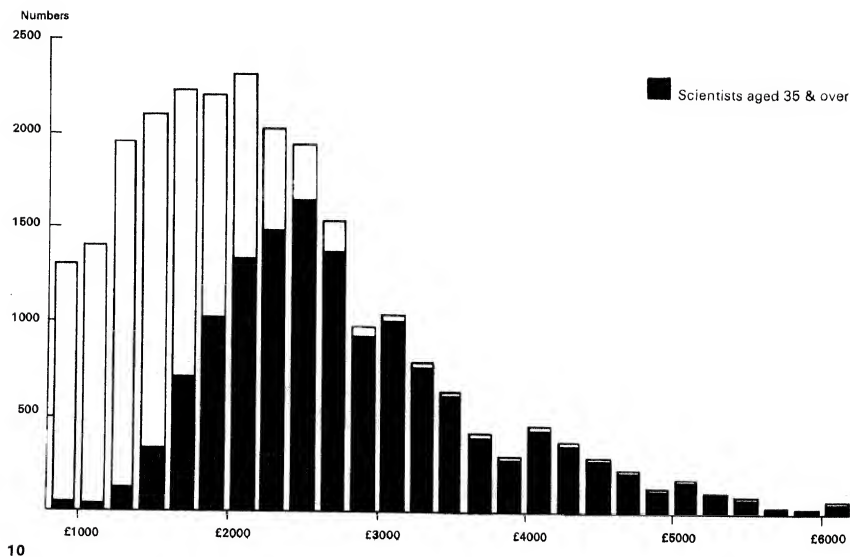


# Distribution of incomes — all scientists

This chart, and the one on the next page, analyses the incomes of all scientists in the sample, by age.

If two groups are considered, those scientists under 35 years old and those 35 years and over, the distributions of incomes for the two groups differ markedly. This difference is illustrated by the chart on this page. It shows that almost all of the under 35 year old scientists earn less than £2 500 per annum. Only 40 per cent of the older group earn less than £2 500 per annum.

The next page has a chart showing the median income by age, and the dispersion about the median, measured by the quartiles and the highest and lowest deciles.



# Distribution of incomes by age — all scientists

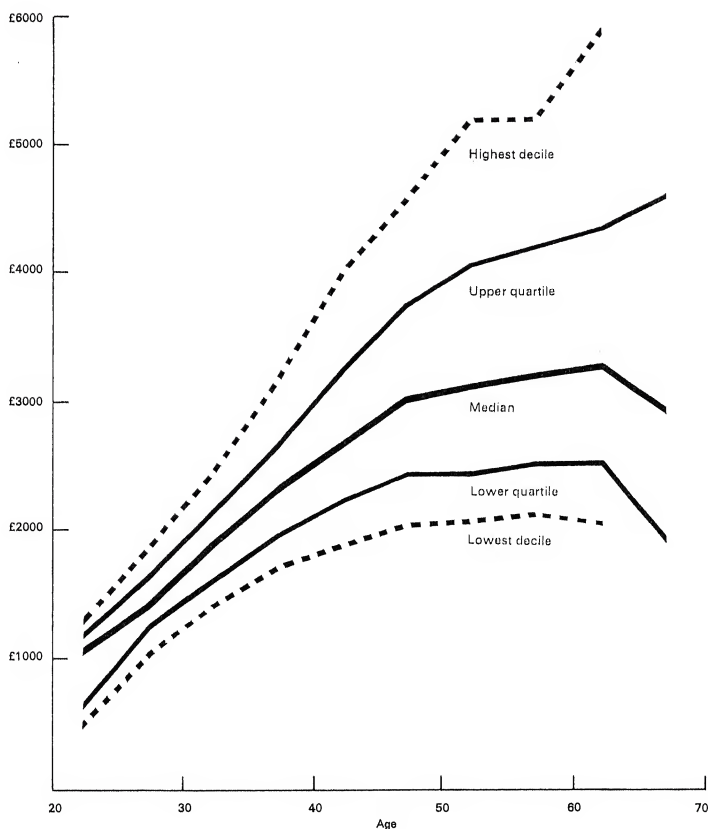


Table 5	Lowest decile	Lower quartile	Median	Upper quartile	Highest decile
	£	£	£	£	£
<b>All ages</b>	<b>1 177</b>	<b>1 558</b>	<b>2 143</b>	<b>2 874</b>	<b>3 931</b>
Under 25	500	651	1 050	1 190	1 310
25 — 29	1 020	1 210	1 400	1 630	1 850
30 — 34	1 406	1 600	1 875	2 150	2 430
35 — 39	1 700	1 950	2 295	2 660	3 171
40 — 44	1 862	2 240	2 662	3 250	4 000
45 — 49	2 020	2 440	3 000	3 750	4 600
50 — 54	2 039	2 433	3 107	4 051	5 200
55 — 59	2 100	2 500	3 176	4 200	5 200
60 — 64	2 037	2 500	3 255	4 310	5 928
65 and over	*	1 893	2 905	4 609	*

\* Numbers in these groups are too small to justify calculation of deciles

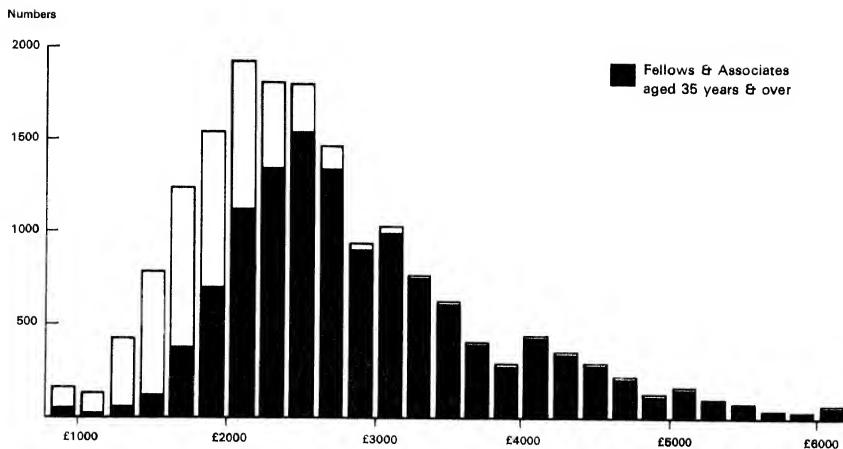
● See also Tables 15 to 19

# Distribution of incomes— fellows and associates

Fellows and Associates of the institutes replying to the questionnaire formed 69 per cent of the total sample of scientists. When an analysis of these higher membership grades is made, similar to that of the two previous pages, some interesting differences appear. As might be expected, there are proportionately fewer of the Fellows and Associates under 35 years old. This younger age group still earns, in the great majority of cases, less than £2 500 per annum, but of the 73 per cent who are over 35 years old, 65 per cent earn more than £2 500 per annum.

The medians, quartiles and deciles of the chart on the next page show that incomes at all levels of Fellows and Associates are higher than for the whole sample at the same age.

The regulations of the institutes vary but, in general, it is not possible to obtain election to the grade of Fellow or Associate before the age of 25; the exception is that of the Royal Institute of Chemistry. The chart has, therefore, been drawn without this lower age group.



# Distribution of income by age — Fellows and Associates

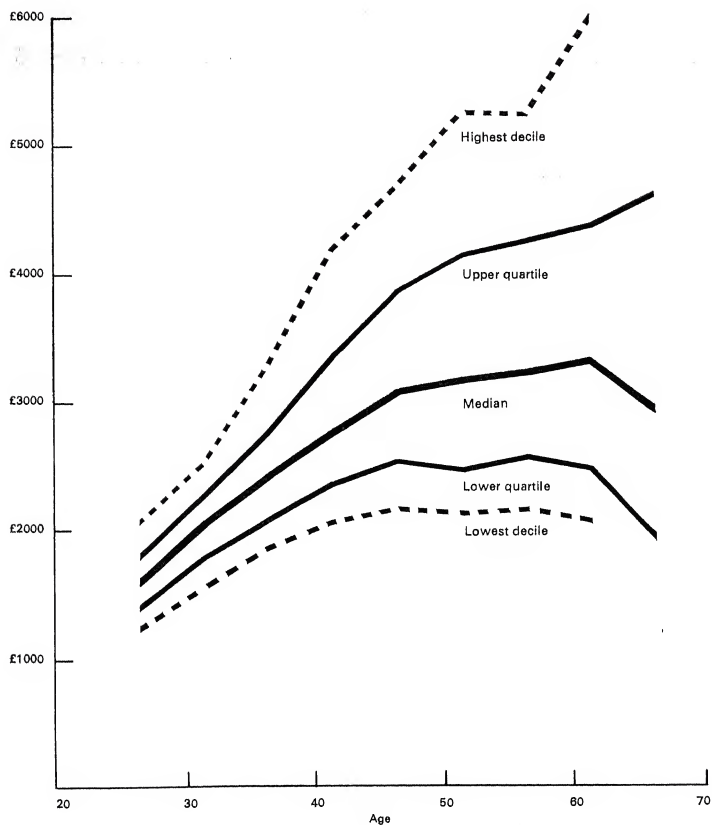


Table 6	Lowest decile	Lower quartile	Median	Upper quartile	Highest decile
	£	£	£	£	£
All ages	1 641	2 012	2 489	3 198	4 259
Under 25	*	*	1 107	*	*
25 — 29	1 210	1 386	1 593	1 798	2 051
30 — 34	1 551	1 768	2 015	2 267	2 544
35 — 39	1 841	2 088	2 410	2 766	3 299
40 — 44	2 041	2 363	2 787	3 360	4 199
45 — 49	2 150	2 524	3 067	3 831	4 677
50 — 54	2 119	2 488	3 155	4 126	5 248
55 — 59	2 131	2 553	3 207	4 242	5 240
60 — 64	2 054	2 486	3 302	4 364	5 992
65 and over	*	1 920	2 933	4 600	*

\* Numbers in these groups are too small to justify the calculation of quartiles and deciles

● See also Table 18

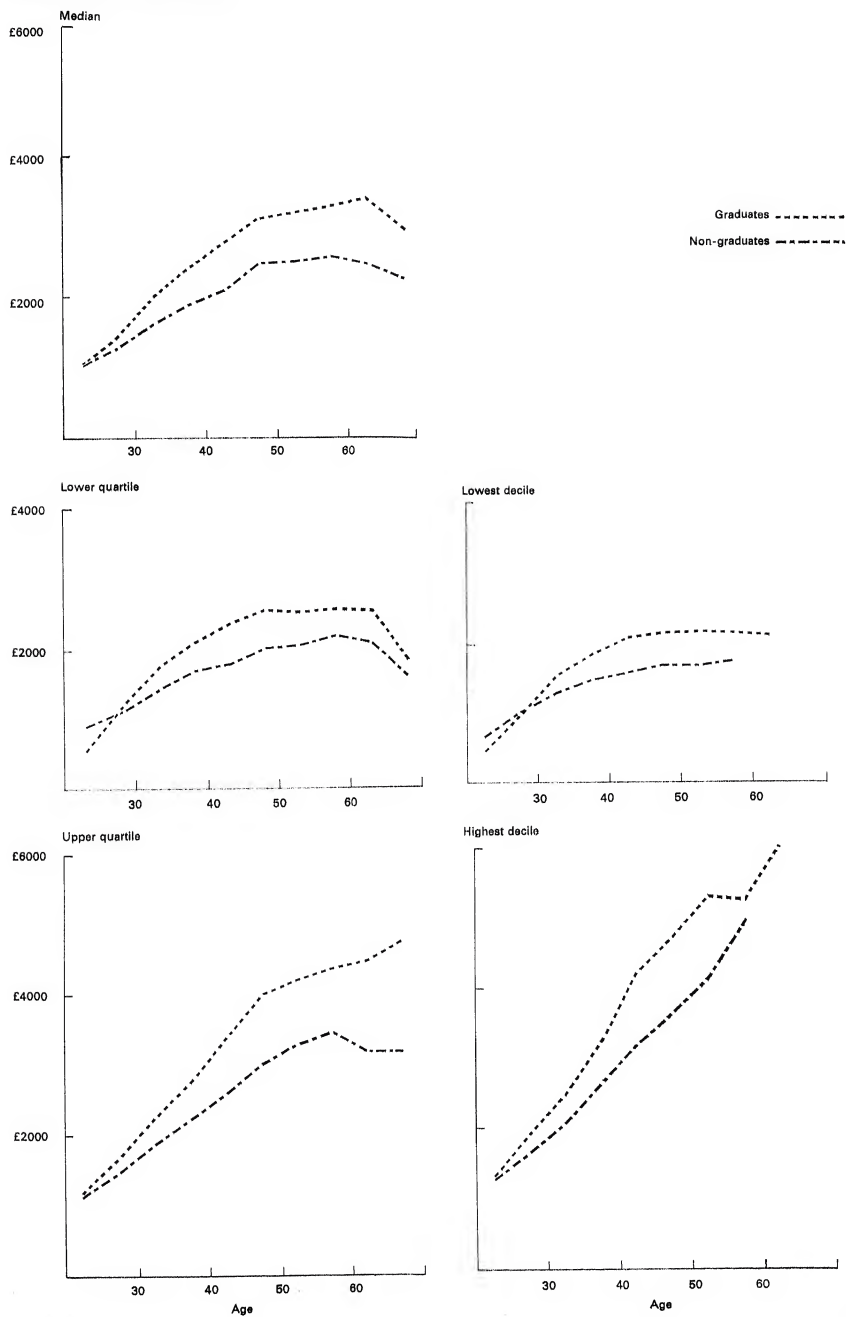
# Distribution of incomes of graduates and non-graduates

The income distribution of scientists is shown, distinguishing between university graduates and non-graduates. The incomes are given as a frequency distribution, and also in a cumulative form. The tables show that over two-thirds of the non-graduate scientists earn less than £2 000, but two-thirds of the graduates earn more than £2 000. The charts opposite show the medians, quartiles and deciles for graduates and non-graduates.

Table 7

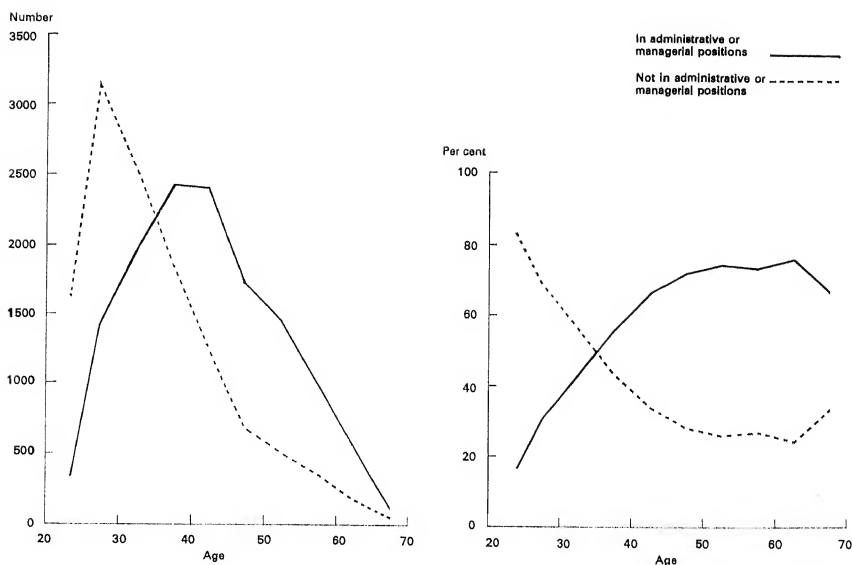
	Distribution		Cumulative	
	Number	Per cent	Number	Per cent
<b>UNIVERSITY GRADUATES</b>				
All scientists	18 069	100.0		
£6 000 and above	415	2.3	415	2.3
£5 000 — 5 999	380	2.1	795	4.4
£4 000 — 4 999	1 347	7.5	2 142	11.9
£3 000 — 3 999	2 741	15.2	4 883	27.1
£2 000 — 2 999	6 930	38.3	11 813	65.4
£1 000 — 1 999	5 264	29.1	17 077	94.5
Below £1 000	992	5.5	18 069	100.0
<b>NON-GRADUATES</b>				
All scientists	7 491	100.0		
£6 000 and above	46	0.6	46	0.6
£5 000 — 5 999	47	0.6	93	1.2
£4 000 — 4 999	103	1.4	196	2.6
£3 000 — 3 999	433	5.8	629	8.4
£2 000 — 2 999	1 844	24.6	2 473	33.0
£1 000 — 1 999	4 702	62.8	7 175	95.8
Below £1 000	316	4.2	7 491	100.0

Comparison of incomes of university or CNAAs  
graduates and non-graduates



# Managerial posts by age

All scientists were asked to classify themselves as either administrative or managerial, or otherwise. The charts below show how the incidence of managerial status rises with increasing age of scientists. The chart showing percentages illustrates this clearly. It can be seen that after about 35 years of age, more than half of the scientists are in managerial posts in each age group.



**Table 8**

	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
In administrative or managerial posts	329	1 413	1 968	2 426	2 411	1 721	1 444	982	557	115
Not in administrative or managerial posts	1 624	3 152	2 567	1 856	1 223	674	502	360	178	58
<b>Per cent</b>	%	%	%	%	%	%	%	%	%	%
In administrative or managerial posts	16.8	31.0	43.4	56.7	66.3	71.9	74.2	73.2	75.8	66.5
Not in administrative or managerial posts	83.2	69.0	56.6	43.3	33.7	28.1	25.8	26.8	24.2	33.5



# **Incomes of scientists and engineers 1968**

The charts and table overleaf have been prepared jointly by the Council of Science and Technology Institutes and the Council of Engineering Institutions to illustrate the similarities and differences between the profiles of professional scientists and engineers.

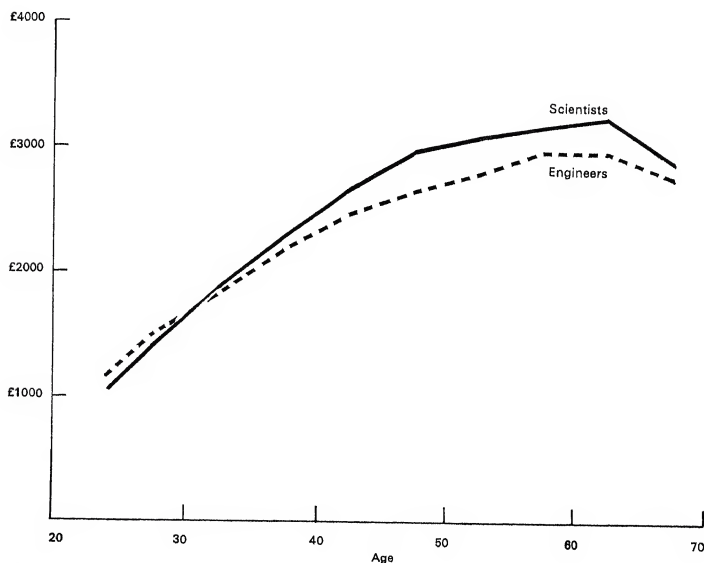
In 1968 there were parallel surveys of scientists and of engineers who were members of one of their professional institutions.

These charts and the accompanying tables have been prepared to illustrate the similarities and differences which have been shown to exist. Earlier surveys of both scientists and engineers have shown that those with university or CNAAs degrees earn rather more than those without. Thus, in making a comparison of median incomes of scientists and engineers, it is important to note that those with degrees were 71 per cent of the sample of scientists but only 36 per cent of the sample of engineers. This accounts for the change in the relative position of the curves shown in the three charts.

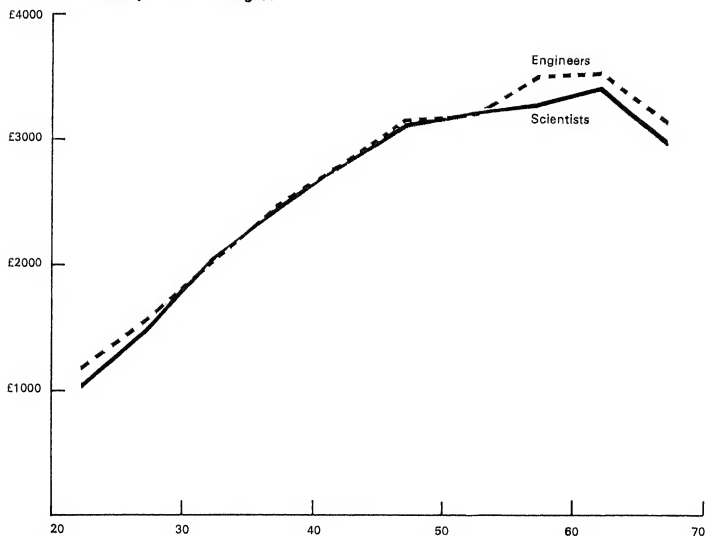
The upper chart on the opposite page shows how closely the median incomes of scientists and engineers with degrees are related. The age group 55-59 appears to be the only one for which the engineer has a significant lead over the scientist of a corresponding age.

The third chart shows that the non-graduate scientists have a lower median income than non-graduate engineers. This is explained by historical differences in the method of education and training in the two professional groups. In the past professional engineers did not require a university degree. Although the position is now changing, the present body of non-graduate engineers has amongst its members many senior members of the profession. On the other hand the non-graduate scientists are mainly in supporting roles.

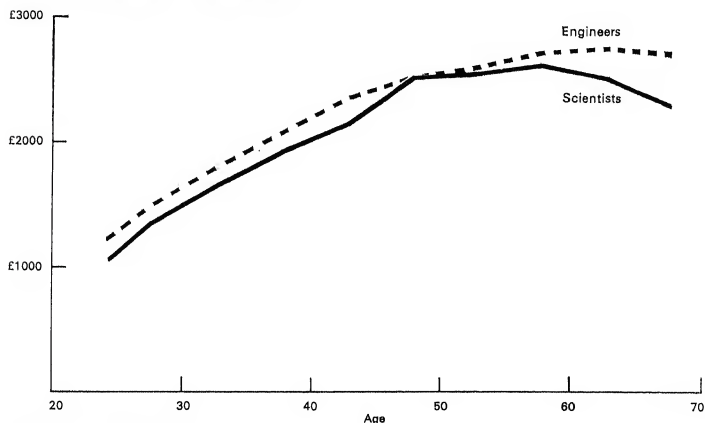
#### Median incomes of all scientists and engineers in the two surveys



# With a university or CNAAB degree



# Without a university or CNAAB degree



# Median incomes by age

Table 9	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
	£	£	£	£	£	£	£	£	£	£
<b>All in sample</b>										
Scientists	1 050	1 400	1 875	2 295	2 662	3 000	3 107	3 176	3 255	2 905
Engineers	1 151	1 500	1 869	2 185	2 500	2 655	2 800	3 000	3 000	2 789
<b>With a university or CNAAB degree</b>										
Scientists	1 050	1 485	2 011	2 430	2 800	3 107	3 210	3 290	3 423	3 000
Engineers	1 194	1 537	2 009	2 465	2 800	3 150	3 204	3 500	3 522	3 167
<b>Without a university or CNAAB degree</b>										
Scientists	1 057	1 320	1 640	1 913	2 132	2 500	2 537	2 613	2 500	2 300
Engineers	1 130	1 485	1 800	2 052	2 340	2 500	2 603	2 704	2 730	2 692



# Part two

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Class of employer and age	10	22
Type of work and age :		
All scientists in the sample	11	23
Scientists in administrative or managerial positions	12	24
Scientists not in administrative or managerial positions	13	25
Field of employment and age	14	26
Income and age :		
All scientists in the sample	15	27
Scientists with a university or CNA A degree	16	28
Scientists without a university or CNA A degree	17	29
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## Analysis by class of employer and age

Table 10

	TOTAL	Age groups									
		Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
<b>ALL SCIENTISTS</b>	<b>25 560</b>	<b>1 953</b>	<b>4 565</b>	<b>4 535</b>	<b>4 282</b>	<b>3 634</b>	<b>2 395</b>	<b>1 946</b>	<b>1 342</b>	<b>735</b>	<b>173</b>
<b>Self-employed</b>	<b>249</b>	<b>%</b>	<b>17.9</b>	<b>17.7</b>	<b>16.8</b>	<b>14.2</b>	<b>9.4</b>	<b>7.6</b>	<b>5.3</b>	<b>2.9</b>	<b>0.7</b>
<b>Employed by —</b>		<b>1.0</b>	<b>11</b>	<b>16</b>	<b>23</b>	<b>27</b>	<b>27</b>	<b>34</b>	<b>30</b>	<b>28</b>	<b>48</b>
Central Government and Armed Forces	2 371	9.3	315	349	371	328	271	267	176	89	11
Hospital Board	245	1.0	29	27	52	44	28	20	15	6	1
Local authority, including colleges and schools	4 036	15.8	669	914	805	518	315	289	216	108	12
Nationalized industry or public corporation	1 682	6.6	399	331	237	212	119	102	73	41	4
The UK Atomic Energy Authority	858	3.4	92	158	216	145	106	62	34	11	—
University	3 155	12.3	584	532	478	474	319	177	138	98	27
Industrial or commercial company or private firm	12 223	47.8	2 343	2 074	1 985	1 794	1 149	943	609	321	57
Any other employer	735	2.9	123	134	115	92	60	51	50	33	13
<b>Employer not stated</b>	<b>6</b>	<b>3</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>—</b>	<b>—</b>

ALL SCIENTISTS IN SAMPLE  
Analysis by type of work and age

Table 11

	TOTAL	Age groups									
		Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
ALL SCIENTISTS	25 560	1 953	4 565	4 535	4 282	3 634	2 395	1 946	1 342	735	173
		%									
General technical administration	2 383	9.3	180	274	363	446	341	324	254	150	19
Production	1 835	7.2	93	300	330	266	206	168	86	39	11
Analysis, testing of materials, or instrumentation and control	2 652	10.4	162	588	490	429	208	189	131	71	9
Research and development	9 073	35.6	1 132	2 044	1 557	1 130	711	556	322	177	27
Design	216	0.8	27	39	33	31	19	22	12	2	—
Teaching	6 342	24.9	206	887	1 379	960	618	443	355	190	37
Technical service or sales, or similar commercial work	1 162	4.6	73	217	221	210	105	79	48	20	7
Consultancy, if not covered in one of the other categories	460	1.8	35	51	53	54	63	39	39	31	45
Other scientific occupation	977	3.8	166	193	156	122	80	60	52	23	9
Non-scientific occupation	409	1.6	27	63	36	43	40	59	39	28	9
Type of work not stated	51	—	3	6	10	13	4	7	4	4	—

**24 SCIENTISTS IN SAMPLE IN ADMINISTRATIVE OR MANAGERIAL POSITIONS**  
**Analysis by type of work and age**

**Table 12**

	TOTAL	Age groups										65 and over
		Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64		
SCIENTISTS IN ADMINISTRATIVE OR MANAGERIAL POSITIONS												
	13 366	329	1 413	1 968	2 426	2 411	1 721	1 444	982	557	115	
	%	2.5	10.6	14.7	18.2	18.0	12.9	10.8	7.3	4.2	0.9	
General technical administration	2 336	30	177	266	352	440	338	319	250	145	19	
Production	1 648	67	240	280	310	252	205	164	82	37	11	
Analysis, testing of materials, or instrumentation and control	1 489	44	201	244	263	273	158	142	100	56	8	
Research and development	3 772	89	414	550	730	718	504	398	222	132	15	
Design	100	2	9	18	15	19	10	18	8	1	—	
Teaching	2 122	24	143	344	441	378	281	212	178	104	17	
Technical service or sales, or similar commercial work	794	23	110	132	168	151	84	64	40	17	5	
Consultancy, if not covered in one of the other categories	306	8	23	36	38	40	53	26	30	22	30	
Other scientific occupation	409	27	52	62	58	69	51	39	30	16	5	
Non-scientific occupation	348	15	42	33	42	61	34	55	38	23	5	
Type of work not stated	42	—	2	3	9	10	3	7	4	4	—	



SCIENTISTS IN SAMPLE NOT IN ADMINISTRATIVE OR MANAGERIAL POSITIONS  
**Analysis by type of work and age**

Table 13

	TOTAL	Age groups									
		Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
<b>SCIENTISTS NOT IN ADMINISTRATIVE OR MANAGERIAL POSITIONS</b>	<b>12 194</b>	<b>1 624</b>	<b>3 152</b>	<b>2 567</b>	<b>1 856</b>	<b>1 223</b>	<b>674</b>	<b>502</b>	<b>360</b>	<b>178</b>	<b>58</b>
		%									
General technical administration	47	13.3	25.8	21.1	15.2	10.0	5.5	4.1	3.0	1.5	0.5
Production	187	2	3	8	11	6	3	5	4	5	—
		1.5	60	50	26	14	1	4	4	2	—
Analysis, testing of materials, or instrumentation and control	1 163	118	387	246	166	102	50	47	31	15	1
Research and development	5 301	1 043	1 630	1 007	687	412	207	158	100	45	12
		43.5									
Design	116	25	30	15	16	12	9	4	4	1	—
		1.0									
Teaching	4 220	182	744	1 035	826	582	337	231	177	86	20
		34.6									
Technical service or sales, or similar commercial work	368	50	107	89	42	31	21	15	8	3	2
		3.0									
Consultancy, if not covered in one of the other categories	154	27	28	17	16	10	10	13	9	9	15
		1.3									
Other scientific occupation	568	139	141	94	64	47	29	21	22	7	4
		4.7									
Non-scientific occupation	61	12	21	3	1	4	6	4	1	5	4
		0.5									
<b>Type of work not stated</b>	<b>9</b>	—	1	3	1	3	1	—	—	—	—

Table 14  
Analysis by field of employment and age

Table 14	Age groups										
	TOTAL	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
ALL SCIENTISTS	25 560	1 953	4 565	4 535	4 282	3 634	2 395	1 946	1 342	735	173
Manufacturing		%	17.9	17.7	16.8	14.2	9.4	7.6	5.3	2.9	0.7
Mining and quarrying	11 652	45.6	849	2 212	2 003	1 901	1 714	908	585	304	60
Gas, electricity and water	131	0.5	8	11	22	20	27	13	10	5	3
Transport and communications	870	3.4	54	203	193	145	104	48	33	27	3
Hospitals	181	0.7	24	31	31	26	19	14	17	3	1
Research institution, association or station	234	0.9	20	31	26	49	44	16	15	6	1
Education	2 908	11.4	233	499	493	516	410	232	140	89	13
Central Government administration	7 455	29.2	637	1 273	1 483	1 313	1 012	466	372	205	40
Government or municipal laboratory*	373	1.5	3	25	24	43	78	78	39	20	5
Consulting firms	718	2.8	21	123	117	127	100	78	49	21	2
Other work	281	1.1	19	28	28	43	26	31	22	20	29
	729	2.9	85	122	109	96	98	64	55	35	14
Field not stated	28	—	7	6	3	2	4	1	3	—	2

\* Analytical, testing, or service

ALL SCIENTISTS IN SAMPLE  
Analysis by income and age

Table 15

	Age groups										65 and over
	TOTAL	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	
<b>ALL SCIENTISTS</b>	<b>25 560</b>	<b>1 953</b>	<b>4 565</b>	<b>4 535</b>	<b>4 282</b>	<b>3 634</b>	<b>2 395</b>	<b>1 946</b>	<b>1 342</b>	<b>735</b>	<b>173</b>
		%									
Below £1 000	1 308	5.1	389	32	15	8	3	6	4	5	13
£1 000 — 1 199	1 411	5.5	651	76	10	8	5	3	2	5	7
£1 200 — 1 399	1 969	7.7	369	298	71	21	10	10	9	8	3
£1 400 — 1 599	2 149	8.4	80	691	183	65	25	20	15	12	8
£1 600 — 1 799	2 235	8.7	18	803	389	155	64	51	26	15	10
£1 800 — 1 999	2 202	8.6	3	839	513	267	108	71	40	20	5
£2 000 — 2 499	5 276	20.6	4	1 425	1 549	898	440	366	223	116	24
£2 500 — 2 999	3 498	13.7	—	274	969	957	536	357	249	111	20
£3 000 — 3 999	3 174	12.4	1	8	439	846	695	528	364	201	20
£4 000 — 4 999	1 450	5.7	1	18	111	297	353	303	234	109	23
£5 000 — 5 999	427	1.7	—	2	15	59	82	111	81	60	17
£6 000 and over	461	1.8	—	5	18	53	74	120	95	73	23
	£	£	£	£	£	£	£	£	£	£	£
Lowest decile	1 177	500	1 020	1 406	1 700	1 862	2 020	2 039	2 100	2 037	*
Lower quartile	1 558	651	1 210	1 600	1 950	2 240	2 440	2 433	2 500	2 500	1 893
Median	2 143	1 050	1 400	1 875	2 295	2 662	3 000	3 107	3 176	3 255	2 905
Upper quartile	2 874	1 190	1 630	2 150	2 660	3 250	3 750	4 051	4 200	4 310	4 609
Highest decile	3 931	1 310	1 850	2 430	3 171	4 000	4 600	5 200	5 200	5 928	*

\* Numbers in these groups are too small to justify calculation of deciles

Table 16

	TOTAL	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
GRADUATE SCIENTISTS											
	18 069	1 513	2 700	2 802	2 975	2 818	1 859	1 539	1 096	616	151
Below £1 000	992	%									
£1 000 — 1 199	741	5.5	8.4	14.9	16.5	15.6	10.3	8.5	6.1	3.4	0.8
£1 200 — 1 399	966	4.1	689	255	22	6	2	6	3	4	11
£1 400 — 1 599	1 011	5.3	461	236	23	3	1	3	1	4	7
£1 600 — 1 799	1 180	5.6	296	563	66	5	5	3	4	4	3
£1 800 — 1 999	1 366	6.5	63	632	219	44	9	7	8	9	6
		7.6	18	512	404	50	21	19	13	7	8
			2	271	574	126	59	37	21	12	4
£2 000 — 2 499	4 047	22.4	2	203	1 173	666	294	271	172	86	20
£2 500 — 2 999	2 883	16.0	—	20	845	812	400	266	192	90	15
£3 000 — 3 999	2 741	15.2	1	7	373	751	603	444	316	172	19
£4 000 — 4 999	1 347	7.5	1	1	103	285	323	278	215	103	21
£5 000 — 5 999	380	2.1	—	—	12	55	75	97	69	57	14
£6 000 and over	415	2.3	—	—	17	45	67	108	82	68	23
Lowest decile	£ 1 215	£ 500	£ 1 000	£ 1 550	£ 1 881	£ 2 100	£ 2 189	£ 2 200	£ 2 189	£ 2 155	£ *
Lower quartile	1 737	600	1 265	1 780	2 124	2 395	2 572	2 541	2 615	2 585	1 900
Median	2 343	1 050	1 485	2 011	2 430	2 800	3 107	3 210	3 290	3 423	3 000
Upper quartile	3 133	1 200	1 714	2 270	2 779	3 392	3 995	4 201	4 360	4 500	4 800
Highest decile	4 249	1 313	1 950	2 510	3 314	4 218	4 730	5 319	5 250	6 055	*

\* Numbers in these groups are too small to justify calculation of deciles

SCIENTISTS WITHOUT A UNIVERSITY OR CNA A DEGREE  
Analysis by income and age

Table 17

	TOTAL	Under 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 and over
NON-GRADUATE SCIENTISTS											
	7 491	440	1 865	1 733	1 307	816	536	407	246	119	22
		%									0.3
Below £1 000	316	4.2	134	10	1	2	1	—	1	1	2
£1 000 — 1 199	670	8.9	415	53	8	5	4	—	1	1	—
£1 200 — 1 399	1 003	13.4	607	232	54	16	5	7	5	4	—
£1 400 — 1 599	1 138	15.2	418	472	139	51	16	13	7	3	2
£1 600 — 1 799	1 055	14.1	192	399	261	105	43	32	13	8	2
£1 800 — 1 999	836	11.2	65	265	253	141	49	34	19	8	1
£2 000 — 2 499	1 229	16.4	28	252	389	232	146	95	51	30	4
£2 500 — 2 999	615	8.2	5	31	124	145	136	91	57	21	5
£3 000 — 3 999	433	5.8	1	17	66	95	92	84	48	29	1
£4 000 — 4 999	103	1.4	—	1	8	12	30	25	19	6	2
£5 000 — 5 999	47	0.6	—	1	3	4	7	14	12	3	3
£6 000 and over	46	0.6	—	—	1	8	7	12	13	5	—
Lowest decile	£ 1 129	£ 700	£ 1 029	£ 1 306	£ 1 500	£ 1 601	£ 1 718	£ 1 708	£ 1 767	£ *	£ *
Lower quartile	1 377	912	1 155	1 450	1 708	1 811	2 021	2 082	2 205	2 100	1 630
Median	1 717	1 057	1 320	1 640	1 913	2 132	2 500	2 537	2 613	2 500	2 300
Upper quartile	2 244	1 169	1 500	1 875	2 240	2 600	3 000	3 300	3 463	3 200	3 200
Highest decile	2 902	1 300	1 676	2 105	2 700	3 202	3 650	4 165	4 964	*	*

\* Numbers in these groups are too small to justify calculation of deciles

## Analysis by income and age

Table 18

Table 18	Age groups												
	TOTAL	Under 25											65 and over
		25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64			
FELLOWS AND ASSOCIATES													
	17 665	55	1 644	3 027	3 443	3 174	2 220	1 884	1 314	732	172		
		%											
Below £1 000	156	0.9	68	17	13	8	3	5	4	5	13		
£1 000 — 1 199	137	0.8	83	17	3	2	1	3	2	5	7		
£1 200 — 1 399	423	2.4	279	75	19	5	5	7	7	8	3		
£1 400 — 1 599	792	4.5	3	407	256	19	11	11	10	11	7		
£1 600 — 1 799	1 246	7.1	2	400	467	74	36	38	24	14	10		
£1 800 — 1 999	1 547	8.8	—	211	631	163	72	61	36	20	5		
£2 000 — 2 499	4 627	26.2	—	172	1 208	786	398	356	214	125	23		
£2 500 — 2 999	3 305	18.7	—	18	271	914	503	342	244	101	21		
£3 000 — 3 999	3 115	17.6	—	5	62	427	824	685	527	364	20		
£4 000 — 4 999	1 437	8.1	1	1	17	106	291	352	234	109	23		
£5 000 — 5 999	423	2.4	—	—	2	13	58	81	111	60	17		
£6 000 and over	457	2.6	—	—	4	17	53	73	94	73	23		
£	£	£	£	£	£	£	£	£	£	£	£	£	
Lowest decile	1 641	*	1 210	1 551	1 841	2 041	2 150	2 119	2 131	2 054	*		
Lower quartile	2 012	*	1 386	1 768	2 088	2 363	2 524	2 488	2 553	2 486	1 920		
Median	2 489	1 107	1 593	2 015	2 410	2 767	3 067	3 155	3 207	3 302	2 933		
Upper quartile	3 198	*	1 798	2 267	2 766	3 360	3 831	4 126	4 242	4 364	4 600		
Highest decile	4 259	*	2 051	2 544	3 299	4 199	4 677	5 248	5 240	5 992	*		

\* Numbers in these groups are too small to justify calculation of deciles

## Analysis by income and geographical area of employment

Table 19

Table 19	TOTAL	Geographical area of employment						Area of employment not stated		
		London	Birmingham	Southern	Manchester/ Liverpool	Northern	Wales		Scotland	Ireland
ALL SCIENTISTS	25 560	6 291	2 211	6 071	2 993	4 944	1 042	1 713	276	19
	%	24.6	8.7	23.8	11.7	19.4	4.1	6.7	1.1	—
Below £1 000	1 308	287	126	324	157	280	57	63	14	—
£1 000 — 1 199	1 411	271	139	350	171	329	60	81	9	—
£1 200 — 1 399	1 969	398	194	477	243	453	97	91	16	—
£1 400 — 1 599	2 149	387	233	573	271	466	76	120	20	3
£1 600 — 1 799	2 235	418	214	556	280	492	111	145	18	1
£1 800 — 1 999	2 202	471	182	550	279	447	96	157	18	2
	8.6									
£2 000 — 2 499	5 276	1 192	514	1 256	595	1 031	253	353	78	4
£2 500 — 2 999	3 498	983	258	793	382	598	135	309	39	1
£3 000 — 3 999	3 174	989	214	687	372	517	104	244	43	4
£4 000 — 4 999	1 450	518	79	343	140	204	39	109	16	2
£5 000 — 5 999	427	155	25	96	55	62	9	22	3	—
£6 000 and over	461	222	33	66	48	65	5	19	2	1
	1.8									
Lowest decile	£ 1 177	£ 1 228	£ 1 150	£ 1 155	£ 1 160	£ 1 125	£ 1 173	£ 1 266	£ 1 242	£ *
Lower quartile	1 558	1 700	1 474	1 511	1 518	1 466	1 520	1 700	1 663	1 528
Median	2 143	2 351	2 000	2 060	2 050	2 000	2 028	2 262	2 251	2 267
Upper quartile	2 874	3 182	2 540	2 716	2 750	2 625	2 552	2 900	2 858	3 240
Highest decile	3 931	4 336	3 395	3 750	3 704	3 495	3 298	3 750	3 765	*

\* Numbers in these groups are too small to justify calculation of deciles

## Analysis by field of employment and type of work

Table 20

	TOTAL	General technical admin.	Production	Analysis, testing of materials or instrumentation and control	Research and development	Design	Teaching	Technical service or sales or similar commercial work	Consultancy	Other scientific work	Non-scientific work	Type of work not stated
ALL SCIENTISTS	25 560	2 383	1 835	2 652	9 073	216	6 342	1 162	460	977	409	51
Manufacturing		%										
Total	11 652	45.6	1 688	1 571	4 841	172	34	1 032	129	325	242	26
Food	778	3.0	104	179	289	1	—	20	9	16	20	3
Oil	493	1.9	60	77	194	8	—	65	8	26	14	—
Chemical or allied	2 617	10.2	341	305	976	33	6	342	33	71	59	5
Pharmaceutical	922	3.6	60	219	462	5	3	26	4	16	13	—
Plastics and polymer	951	3.7	112	79	487	7	1	113	5	23	14	1
Iron and steel	1 025	4.0	168	135	349	1	5	107	10	19	11	5
Non-ferrous metals	779	3.1	123	75	264	—	1	83	6	18	21	3
General engineering	854	3.3	189	134	251	29	1	45	16	28	20	3
Electrical and electronic equipment	1 287	5.0	127	118	712	56	8	103	14	40	19	2
Aerospace	336	1.3	48	32	155	20	2	7	5	24	8	1
Textile	307	1.2	41	33	139	1	4	17	5	7	10	1
Other manufacturing	1 303	5.1	186	185	563	11	3	104	14	37	33	2
Mining and quarrying	131	0.5	24	39	47	—	—	8	2	6	3	—
Hospitals	234	0.9	47	61	61	—	—	3	17	43	1	1



Table 20 (continued)

	TOTAL	%	General technical admin.	Production	Analysis, testing of materials or instrumentation and control	Research and development	Design	Teaching	Technical service or sales or similar commercial work	Consultancy	Other scientific work	Non-scientific work	Type of work not stated
<b>Public utilities</b>													
<b>Total</b>	1 051	4.1	173	67	327	310	19	5	26	18	94	10	2
Gas production or distribution	164	0.6	17	36	59	31	1	—	10	2	7	1	—
Electricity generating or distribution	512	2.0	69	23	152	194	14	1	7	6	41	4	1
Water supply, river purification	194	0.8	61	—	84	14	1	—	7	1	24	1	1
Transport (by rail, road, air, water)	116	0.5	15	6	18	53	2	—	—	8	11	3	—
Postal services, telecommunications or broadcasting	65	0.3	11	2	14	18	1	4	2	1	11	1	—
<b>Research</b>													
Research institution, association or station	2 908	11.4	110	14	167	2 443	7	8	13	26	110	6	4
<b>Education</b>													
<b>Total</b>	7 455	29.2	75	3	34	920	3	6 213	6	16	147	34	4
University	3 291	12.9	44	2	33	867	1	2 174	3	11	129	25	2
Technical college	2 240	8.8	28	—	1	50	1	2 138	3	4	11	2	2
College of education	302	1.2	1	—	—	3	—	292	—	1	3	2	—
School	1 622	6.4	2	1	—	—	1	1 609	—	—	4	5	—
<b>Public administration</b>													
<b>Total</b>	1 091	4.3	254	29	365	250	2	16	15	33	99	22	6
Central Government administration	373	1.5	189	13	7	53	—	14	7	17	47	22	4
Government or municipal laboratory	718	2.8	65	16	358	197	2	2	8	16	52	—	2
Consulting firms	281	1.1	8	2	45	24	2	1	11	180	6	2	—
Other fields	729	2.9	96	28	42	168	11	60	47	37	147	86	7
Field not stated	28		4	2	1	9	—	5	1	2	—	3	1

## Analysis by field of employment and class of employer

Table 21

	TOTAL	Self-employed	Central government	Hospital board	Local authority	Nationalized industry or public corporation	UKAEA	University	Industrial or commercial company or private firm	Any other employer	Employer not stated
ALL SCIENTISTS	25 560	249	2 371	245	4 036	1 682	858	3 155	12 223	735	6
	%										
Manufacturing industry	11 652	1-0	9-3	1-0	15-8	6-6	3-4	12-3	47-8	2-9	
Mining or quarrying	131	64	55	—	6	665	99	7	10 730	25	1
Gas, electricity, water	870	2	—	—	—	101	—	1	26	1	—
Transport and communications	181	—	4	—	138	570	45	—	95	17	1
Hospitals	234	1	14	—	1	113	1	—	49	2	—
	0-9	—	3	221	—	—	—	4	1	5	—
Research institution, association or station	2 908	3	1 189	15	2	200	541	66	820	71	1
Education	7 455	6	225	5	3 641	6	1	3 061	22	486	2
Central Government administration	373	—	350	—	4	6	12	—	—	1	—
Government or municipal laboratory	718	2	437	1	165	3	104	1	3	2	—
Consulting firms	281	112	—	—	—	1	—	—	166	2	—
	1-1	—	—	—	—	—	—	—	—	—	—
Other work	729	58	90	3	70	17	51	15	302	123	—
	2-9	—	—	—	—	—	—	—	—	—	—
Field not stated	28	1	4	—	9	—	4	—	9	—	1

## Analysis by type of work performed and class of employer

Table 22

	TOTAL	Self-employed	Central government	Hospital board	Local authority	Nationalized industry or public corporation	UKAEA	University	Industrial or commercial company or private firm	Any other employer	Employer not stated
<b>ALL SCIENTISTS</b>	<b>25 560</b>	<b>249</b>	<b>2 371</b>	<b>245</b>	<b>4 036</b>	<b>1 682</b>	<b>858</b>	<b>3 155</b>	<b>12 223</b>	<b>735</b>	<b>6</b>
		%									
General technical administration	2 383	9.3	297	48	96	201	81	45	1 559	31	1
Production	1 835	7.2	11	1	4	192	57	2	1 519	5	—
Analysis, testing of materials, or instrumentation and control	2 652	10.4	22	59	203	360	96	36	1 616	16	1
Research and development	9 073	35.6	17	66	70	726	534	747*	5 406	101	2
Design	216	0.8	3	—	2	10	8	1	186	—	—
Teaching	6 342	24.9	6	108	2	3 552	9	3	2 166	26	469
Technical service or sales, or similar commercial work	1 162	4.6	13	13	6	64	15	3	1 039	6	—
Consultancy, if not covered in one of the other categories	460	1.8	113	41	20	11	18	9	227	12	—
Other scientific occupation	977	3.8	21	179	44	60	79	119	358	70	—
Non-scientific occupation	409	1.6	19	28	1	16	5	25	264	22	1
<b>Type of work not stated</b>	<b>51</b>	<b>—</b>	<b>8</b>	<b>1</b>	<b>4</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>23</b>	<b>3</b>	<b>—</b>

\* It is important to note that the 747 scientists shown here as engaged in research and development in universities do not represent the full strength of research workers in these establishments. A considerable amount of research will, of course, be carried out by the 2166 university teachers. (See also Question V, section B(D)).

MEMBERSHIP OF THE SCIENCE INSTITUTES within  
the Council of Science and Technology Institutes  
1 April 1968

Table 23	Total home and overseas members	Home members			Graduates	Licentiates
		Total	Fellows, Associates			
The Institute of Biology	4 932	4 475	3 477		998	
The Royal Institute of Chemistry	22 997	20 143	14 926		1 851	3 366
The Institute of Mathematics and its Applications	2 380	2 260	1 330		805	125
The Institution of Metallurgists	7 738	6 602	4 534		676	1 392
The Institute of Physics and The Physical Society	10 340	8 777	4 794		3 571	412

## TECHNICAL NOTE

The survey was conducted by the five science institutes, each of which sent a questionnaire to all its home members. Reminders were not sent, but the survey was given prominence in the journals. Just under 40 000 questionnaires were despatched and the number of completed ones returned produced an overall response rate of 69·3 per cent.

The questionnaire used in this survey, reproduced on pages 40 and 41, was more complicated than that used in previous surveys. The response rate is shown in the table below. In addition a comparison is made between the number of completed questionnaires returned to the science institutes and the estimated population within Great Britain qualified in the relevant scientific discipline. The Institute of Mathematics and its Applications was established only recently, in 1964, and this accounts for the relatively small number of mathematicians in its membership when the survey was made in 1968.

Each institute edited the questionnaires from its own members and removed those cards which were not acceptable.

These included cards for:

- (a) all respondents who did not state either age or income or both,
- (b) all unemployed or retired respondents,
- (c) all respondents not in full-time employment,
- (d) all post-graduate students,
- (e) all self-employed respondents of The Institute of Mathematics and its Applications.

The initial processing of the edited questionnaires was undertaken by the Computer Department of the Glaxo Group of companies, and the results for each institute were produced separately. The analysis of results and the commentary for the separate surveys were published by the five bodies, mainly in their respective journals. (Details are given on page 38.) The complete magnetic tape was then passed to the Ministry of Technology, and further analysis produced the data for the tables in this volume.

## Scientists replying in survey

**Table 24**

	Scientists replying to survey	Scientists replying as a proportion of those receiving questionnaires	those in economically active population <sup>(1)</sup>
		%	%
<b>Total</b>	<b>27 683</b>	<b>69</b>	<b>25</b>
The Institute of Biology	2 855	64	14
The Royal Institute of Chemistry	14 336	74	33
The Institute of Mathematics and its Applications	1 398	70	7
The Institution of Metallurgists	3 672	62	52
The Institute of Physics and The Physical Society	5 422	67	27

<sup>(1)</sup> Persons in Great Britain with a degree or equivalent qualification in the relevant discipline

**Individual reports on the survey of professional  
scientists 1968 made by the science institutes**

Institute of Biology ;  
*Journal*, Vol. 15, No. 3

Royal Institute of Chemistry ;  
Supplement to *Chemistry in Britain*, Vol. 4, No. 9,  
September 1968

Institute of Mathematics and its Applications ;  
Not published. Booklet sent to members

Institution of Metallurgists ;  
*Metals and Materials*, Vol. 3, No. 7, July 1969, p269

Institute of Physics and The Physical Society ;  
*Physics Bulletin*, Vol. 19, August 1968, p266 and  
November 1968, p385

# Questionnaire

The form of questionnaire used by the five institutes is reproduced on the next two pages. There was one divergence from the common layout ; The Institute of Biology asked an additional question to obtain information about the frequency of occurrence of medical degrees.

Each institute distinguished the grade of membership and sex of the respondent in its own questionnaire.

## REMUNERATION SURVEY, 1968

Would you please complete this questionnaire card and return it in the accompanying envelope (postage prepaid) as soon as possible. The information that you provide will be included in the Survey if received by 28 May. If you have retired or you are not in employment only the first three questions need be answered, but it is important that the card should be returned.

The cards will be processed by computer, so please write clearly and boldly. No signature is required and anonymity will be strictly preserved. Should you have any difficulty in answering a particular question please select the code letter or number that is most appropriate, even if it is not quite correct. Only one letter or number should be used for each answer.

I. SOCIETY, GRADE OF MEMBERSHIP ...../Fellow/Male  
(Please check and amend if incorrect. The printed coding will then be altered.)

II. AGE, in years only, at 1 April, 1968

Please answer questions III-V and VII by inserting the most appropriate codes from the schedules given overleaf.

III. CLASS OF EMPLOYER

NOTE: If in Group J or K it is not necessary to answer any further questions, but please return the card.

IV. FIELD OF EMPLOYMENT

V. TYPE OF WORK

Section A

Section B

VI. QUALIFICATIONS

A. If you hold one of the degrees named below, please state name of university or awarding body, and subject

<i>Awarded by</i>	<i>Subject</i>
Ph.D. or D.Phil. ....	.....
M.Sc. ....	.....
B.A. or B.Sc. ....	.....

B. Please list *all* your qualifications (excluding honorary degrees).....  
(No entry should be made in the square: your answers will be coded for you)

VII. GEOGRAPHICAL AREA OF EMPLOYMENT (see schedule overleaf)

VIII. TOTAL EARNED INCOME during the year ended 5 April 1968 from salaried employment, and/or professional services, in accordance with the notes below:—

INCOME FROM MAIN OCCUPATION

 \*

INCOME FROM SECONDARY OCCUPATION(S), IF ANY

 \*

\* To nearest pound only, please.

**For a member in salaried employment—**

*Income from main occupation* should be taken to mean the total sum (before deduction of tax) received from the sole or principal employer in the form of salary—plus bonus, share of profits, commission, fees or honoraria, or any other monetary payment other than a refund of expenses incurred—during the fiscal year that ended on 5 April, 1968. The correct sum will normally be the one shown on tax form P.60, which should have been received by employees before the end of April.

*Income from secondary occupation(s)* should be taken to mean the total sum (if any), as defined above, that has been received from any other employer or client for work that is consistent with, but not part of the main occupation. Examples are evening class teaching fees, examiner's fees, royalties, part-time consultancy fees.

**For a member who is self-employed** (and not otherwise in receipt of a fixed income) main and secondary income are irrelevant. Gross earnings from all sources should be stated as income from main occupation.

Note: Income Tax, National Insurance contributions, or contributions made under a group superannuation scheme should not be deducted; any insurance or superannuation contributions paid by an employer should not be added. No additions should be made for benefits in kind (e.g. use of car, sickness or accident insurance cover, accommodation at a nominal rent).



CODING SCHEDULES FOR QUESTIONS III to V and VII.

**Q. III. CLASS OF EMPLOYER (IF SELF-EMPLOYED SEE CLASS I)**

- A CENTRAL GOVERNMENT (including Research Councils) AND ARMED FORCES (excluding G.P.O., cf. D)
- B HOSPITAL BOARD (within National Health Service)
- C UNITED KINGDOM ATOMIC ENERGY AUTHORITY
- D NATIONALIZED INDUSTRY OR PUBLIC CORPORATION (please include G.P.O.: also B.B.C., N.P.A., etc.)
- E LOCAL AUTHORITY (including technical college, training college or school under Local Authority; also any establishment controlled by a group of Local Authorities)
- F UNIVERSITY (including Agricultural or Medical School)
- G INDUSTRIAL OR COMMERCIAL COMPANY, PARTNERSHIP OR FIRM: CONSULTING PRACTICE: INDUSTRIAL RESEARCH ASSOCIATION (if not wholly financed by Government); TRADE ASSOCIATION
- H ANY EMPLOYER NOT COVERED BY A-G. Please specify.....
- I SELF-EMPLOYED in any capacity, including as a Principal or Partner of a private consulting practice.
- J UNEMPLOYED, and under normal retiring age for last appointment.
- K RETIRED, and not fully re-employed. If fully re-employed use appropriate code letter above.

**Q. IV. FIELD OF EMPLOYMENT**

- |   |   |
|---|---|
| 10 Central Government Administration.                                     | 27 Pharmaceutical Industry.   |
| 11 Government or Municipal Laboratory (analytical, testing or service).   | 28 Chemical or Allied Industry.   |
| 12 Research Institute, Association or Station. (Government or otherwise.) | 29 Food Industry.   |
| 13 Hospital (non-teaching post).  | 30 Textile Industry.  |
| 14 Postal services, telecommunications or broadcasting.                   | 31 Any other Manufacturing Industry.                                      |
| 15 Mining or quarrying (including coal mining or distributing).           | 32 University (including Agricultural or Medical School of a University). |
| 16 Gas production and distribution.                                       | 33 Technical College.   |
| 17 Electricity generation and distribution.                               | 34 College of Education.  |
| 18 Transport (by road, rail, air, water).                                 | 35 School.  |
| 19 Water supply; River purification.                                      | 36 Consulting firm.   |
| 20 Iron & Steel Industry.   | 37 Any field of employment not covered by 10-36. Please                   |
| 21 Non-ferrous metals Industry.   | specify .....   |
| 22 Electrical and Electronic Equipment Industry.                          | .....   |
| 23 General Engineering Industry.  | .....   |
| 24 Aerospace Industry.  | .....   |
| 25 Oil Industry.  | .....   |
| 26 Plastics and Polymer Industry.   | .....   |

**Q. V. TYPE OF WORK** (It is realised that the classifications are not precise. Please choose the code letter in each of the two sections that seems most appropriate, even if not entirely suitable).

*Section A*

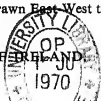
- A Administrative or managerial, as a scientist or technologist.
- B Administrative or managerial, NOT as a scientist or technologist.
- C NOT administrative or managerial.

*Section B*

- A General technical administration.
- B Production.
- C Analysis, testing of materials, or instrumentation and control.
- D Research and development (not as part of teaching appointment).
- E Design.
- F Teaching.
- G Technical Service or Sales, or similar commercial work.
- H Consultancy (if not covered by one of the categories above).
- I Other scientific or technological work.
- J Non-scientific work.

**Q. VII. GEOGRAPHICAL AREA OF EMPLOYMENT.** (Please choose area that you consider most appropriate, even if not strictly accurate).

- A ENGLAND—LONDON AREA: Within 20 miles of Westminster.
- B ENGLAND—BIRMINGHAM AREA: Within 30 miles of centre of Birmingham.
- C ENGLAND—SOUTHERN: South of line drawn due East-West through centre of Birmingham, but not in A or B.
- D ENGLAND—MANCHESTER/LIVERPOOL AREA: Within 20 miles of centre of either city.
- E ENGLAND—NORTHERN: North of line drawn East-West through centre of Birmingham but not B or D.
- F WALES.
- G SCOTLAND.
- H NORTHERN IRELAND or REPUBLIC OF IRELAND.



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# The Survey of Professional Scientists 1968

Ministry of Technology  
and the Council of Science and  
Technology Institutes



Studies in Technological Manpower  
No. 2

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# Preface

This survey of professional scientists and applied scientists has been undertaken jointly by the Ministry of Technology and the five science institutes listed on page 1. It is the most comprehensive study of scientists and their remuneration which has been undertaken in the United Kingdom. The survey was designed to provide, for the first time, a profile of professional scientists closely compatible with that of the professional engineers.



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